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We claim:

1. A method of improving diabetes status in a subject in need of such improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes having an allele and/or a genotype at a gene locus which positively correlates with greater success in improving diabetes status in diabetic individuals, as compared with other alleles and/or genotypes at the same gene locus; and

engaging the subject in exercise training for a period of time sufficient to improve the diabetes status in the subject.

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2. A method of improving diabetes status in a subject in need of such improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes having a "12" genotype for a beta-2 adrenergic receptor gene, wherein the subject is in need of improved diabetes status; and

engaging the subject in extensive exercise training for a period of time sufficient to improve the diabetes status in the subject.

- 20 3. A method of improving diabetes status in a subject in need of such improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes having a "11" genotype for a beta-3 adrenergic receptor gene, wherein the subject is in need of improved diabetes status; and

engaging the subject in extensive exercise training for a period of time sufficient to improve the diabetes status in the subject.

- 25 4. A method of improving diabetes status in a subject in need of such improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes having a "11" genotype for a peroxisome proliferator activator receptor gamma

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gene, wherein the subject is in need of improved diabetes status; and
engaging the subject in extensive exercise training for a period of time
sufficient to improve the diabetes status in the subject.

5. 5. A method of improving diabetes status in a subject in need of such
improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes
having a "12" genotype for a fatty acid binding protein-2 gene, wherein the
subject is in need of improved diabetes status; and

10 engaging the subject in extensive exercise training for a period of time
sufficient to improve the diabetes status in the subject.

6. 6. A method of improving diabetes status in a subject in need of such
improvement, the method comprising:

15 identifying a subject with diabetes or at risk of developing diabetes
having a "12" genotype for a insulin receptor substrate-1 gene, wherein the
subject is in need of improved diabetes status; and

engaging the subject in extensive exercise training for a period of time
sufficient to improve the diabetes status in the subject.

20 7. 7. A method of improving diabetes status in a subject in need of such
improvement, the method comprising:

identifying a subject with diabetes or at risk of developing diabetes
having a "11" genotype for a beta-2 adrenergic receptor gene, wherein the
25 subject is in need of improved diabetes status; and

engaging the subject in moderate exercise training for a period of time
sufficient to improve the diabetes status in the subject.